



Pre-Installation Guide

CHROMOPHARE[®] D650 Plus & D530 Plus Surgical and Examination Light And Flat Panel Products



Table of Contents

□ Introduction & General Information.....	3
□ Superstructure Information	4-5
□ Mounting Rings	
❖ Mounting Ring (For New Construction).....	6
❖ Universal Mounting Ring (For Existing Construction).....	7
□ Electrical Requirements for Standard Mounting	8-9
□ Electrical Requirements for Low Profile Mounting	10-11
□ Electrical Requirements for Flat Panel Products	12
□ Wall Control Box Dimensions	13
□ SK Box Dimensions.....	14



Introduction & General Information

This Pre-Installation Guide details and describes the structural, mechanical and electrical requirements of the room or site to allow proper installation of BERCHTOLD CHROMOPHARE® Lights and Flat Panel products.

It is intended for use by technical individuals involved in the specification, design and construction of the room or site, such as architects, structural engineers, contractors, electricians and pipe fitters.

The Hospital and/or its' contractors are responsible for the preparation of the room or site including the superstructure design and installation and all other mechanical and electrical requirements described within this guide.

Painting and flooring need to be completed before the product can be installed.

Questions pertaining to the information contained in this guide can be addressed by calling your local BERCHTOLD Technical Service Representative or BERCHTOLD Technical Service at 1-800-243-5135.

This guide is applicable to the following BERCHTOLD products:

- CHROMOPHARE® D650 Plus
- CHROMOPHARE® D530 Plus
- All multiple combinations of the CHROMOPHARE® D650 Plus and D530 Plus.
- Stand alone Flat Panel Products
- Flat Panel combined with either one or two CHROMOPHARE® D650 Plus or D530 Plus lights.



Superstructure Design and Specification Information

The customer/contractor has responsibility to ensure the superstructure design meets specifications. BERCHTOLD recommends that a Structural Engineer be involved in the design of the superstructure.

Important: Weights and moments must be adjusted when designing for use in seismic zones. Check with your local construction-engineering agency for applicable local and state codes.

Recommended Design Specifications

BERCHTOLD Corporation **STRONGLY recommends** that the superstructure be designed to meet the following specifications. (Reference drawing on next page). Designing to these specifications will allow any Light or Flat Panel product to be hung from the structure.

Product Type	Weight (T) lbs.	Shear (V) lbs.	Moment (M) ft•lbs with less than 0.1° rotation at mounting ring
Any Light or Flat Panel Non seismic zone	369	N/A	1497
Any Light or Flat Panel Seismic zone 4	443	173	2453

Minimum Design Specifications by Product Type

If the customer decides to design the superstructure to the requirements of the specific product type, the superstructure design specifications can be found in the table below.

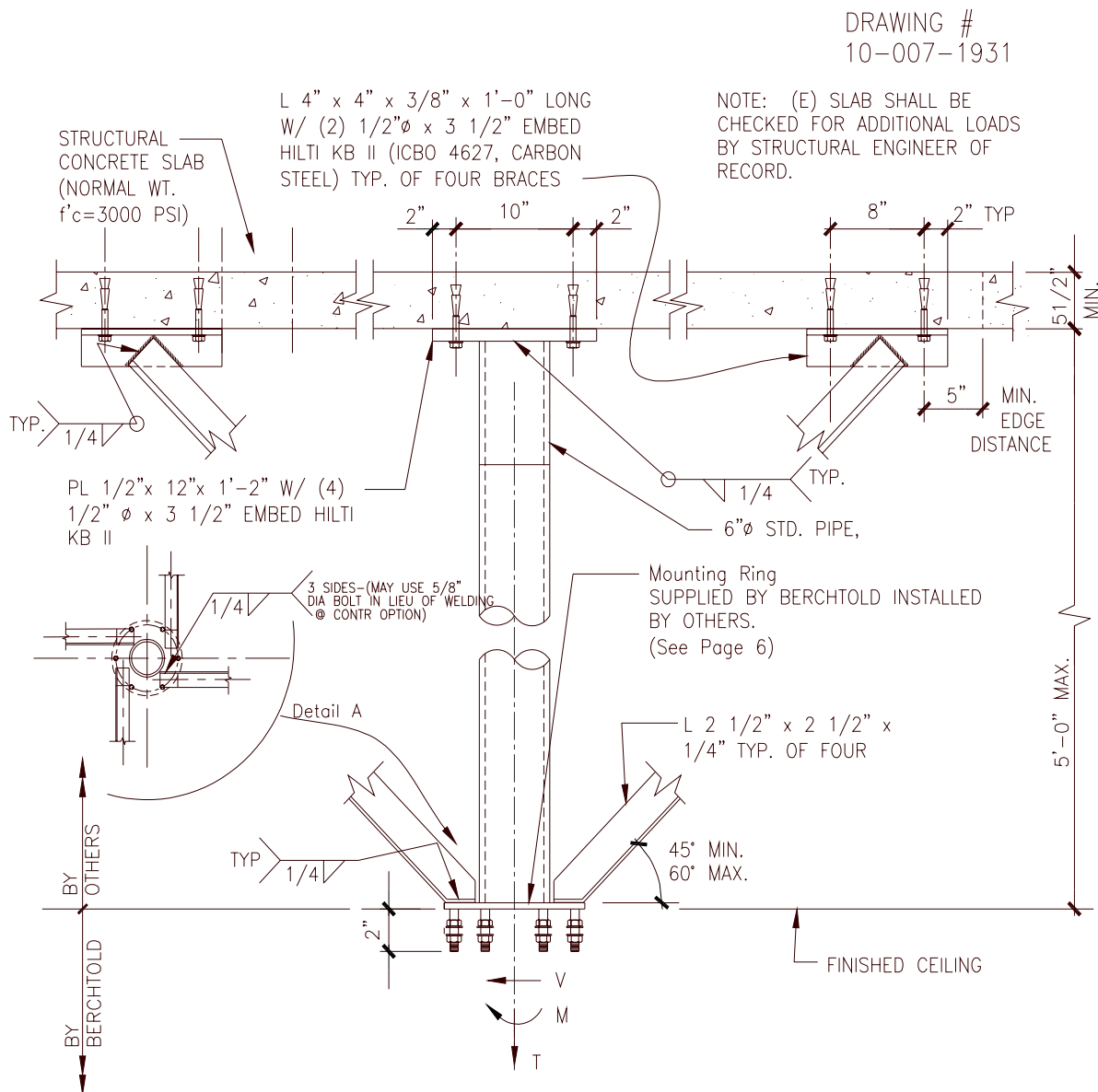
Product Type	Weight (T) lbs.	Moment (M) ft•lbs with less than 0.1° rotation at mounting ring
Single Light	114	360
Double Light	197	656
Triple Light	261	875
Flat Panel only	172	922
Single Light with Flat Panel	287	1180
Double Light with Flat Panel	369	1497



BERCHTOLD **STRONGLY recommends** that the superstructure be designed as shown.

Important design notes:

1. Four (4) kickers are needed.
2. Kickers should be anchored (welding preferred) to the mounting ring as shown in Detail A. Do NOT anchor to vertical pipe.
3. The mounting ring (provided by BERCHTOLD, page 6) should be installed flush with the ceiling with the studs pointing down.



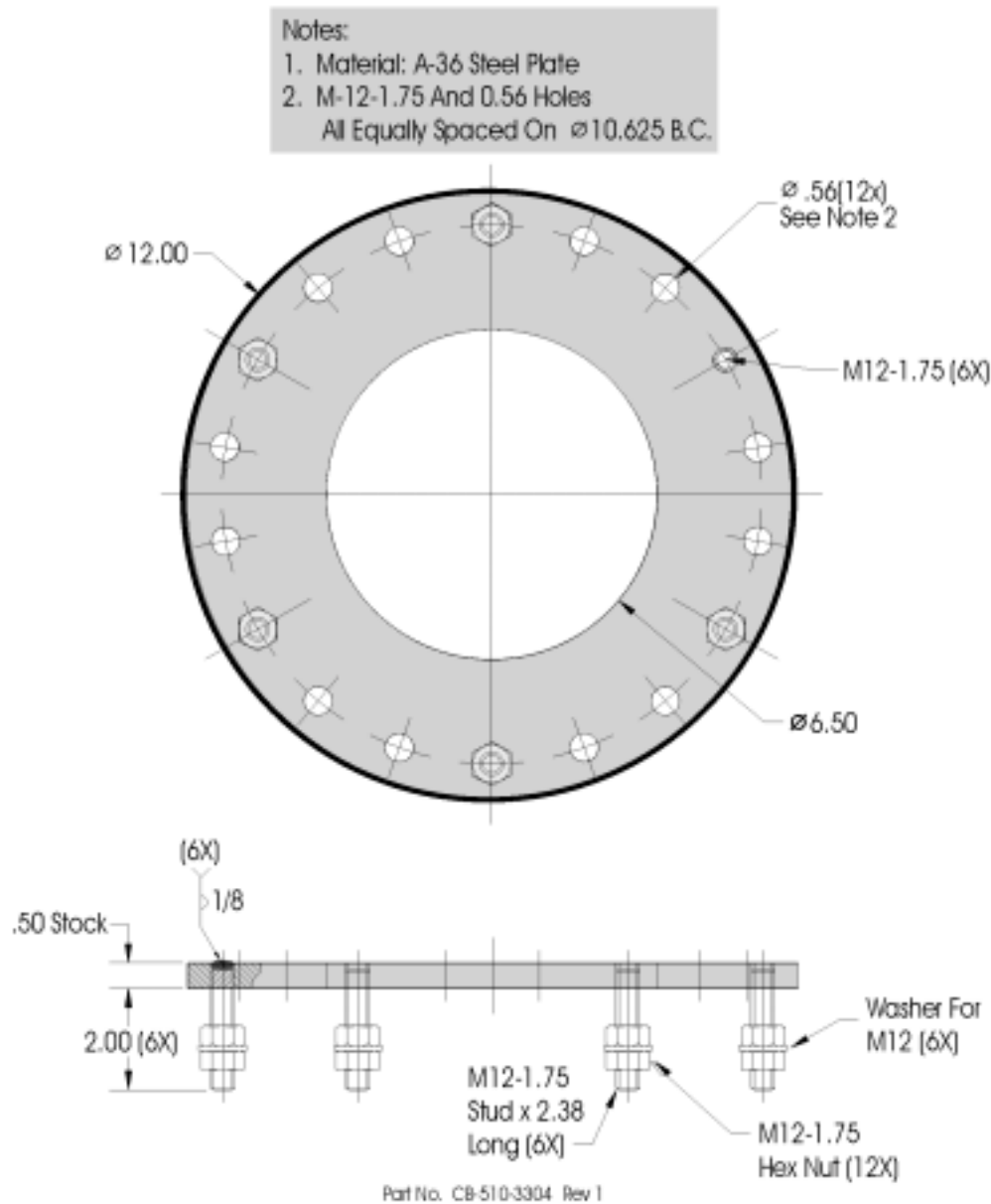
Recommended Superstructure Design – See Specifications on Page 4



Mounting Rings (Supplied by BERCHTOLD)

Mounting Ring Details and Dimensions

(For New Construction where superstructure needs to be fabricated)

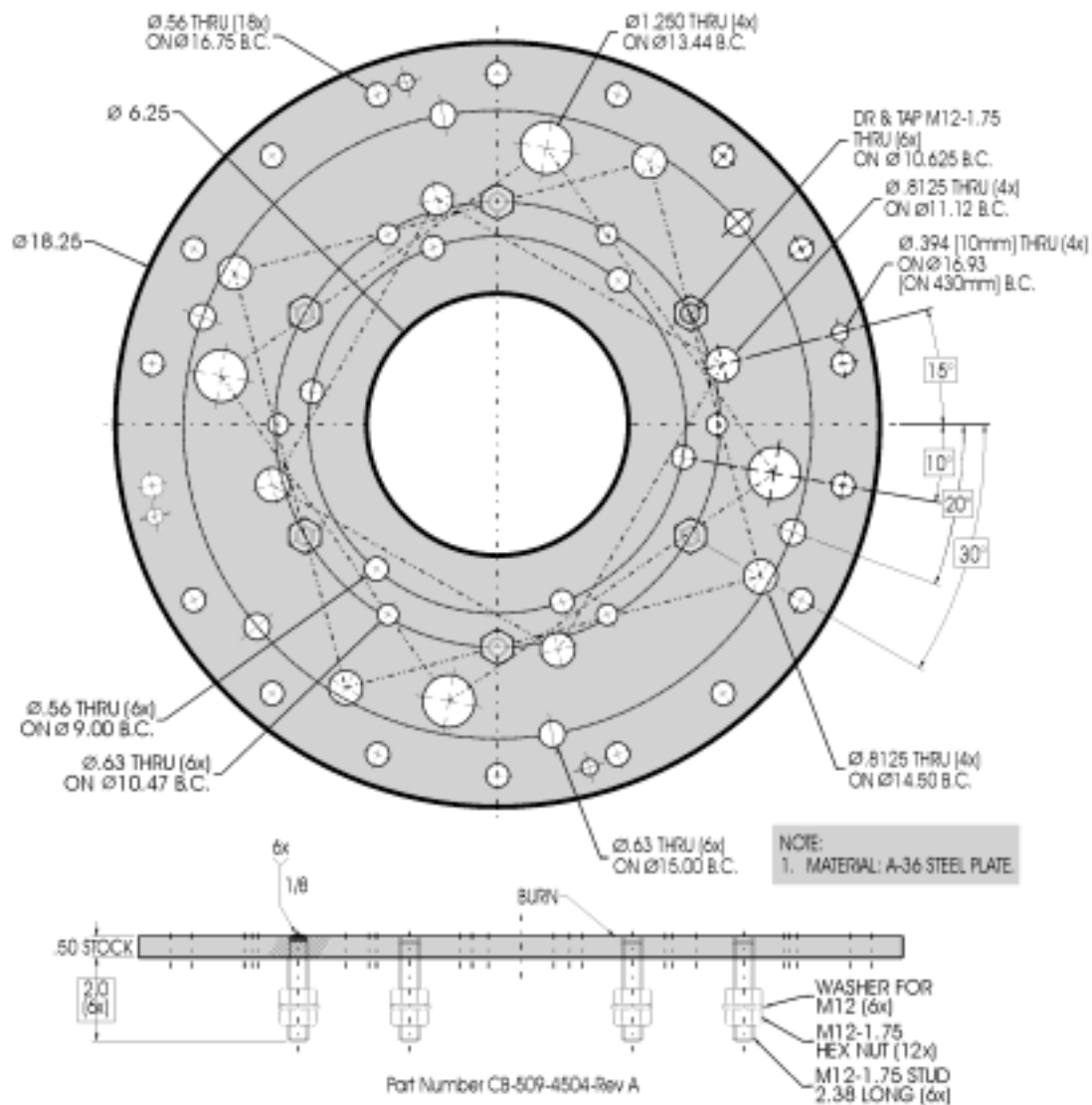


NOTE: Dimensions are in inches.



Mounting Rings-continued

Universal Mounting Ring Details and Dimensions
(For Existing Construction where superstructure already exists)



NOTE: Dimensions are in inches.



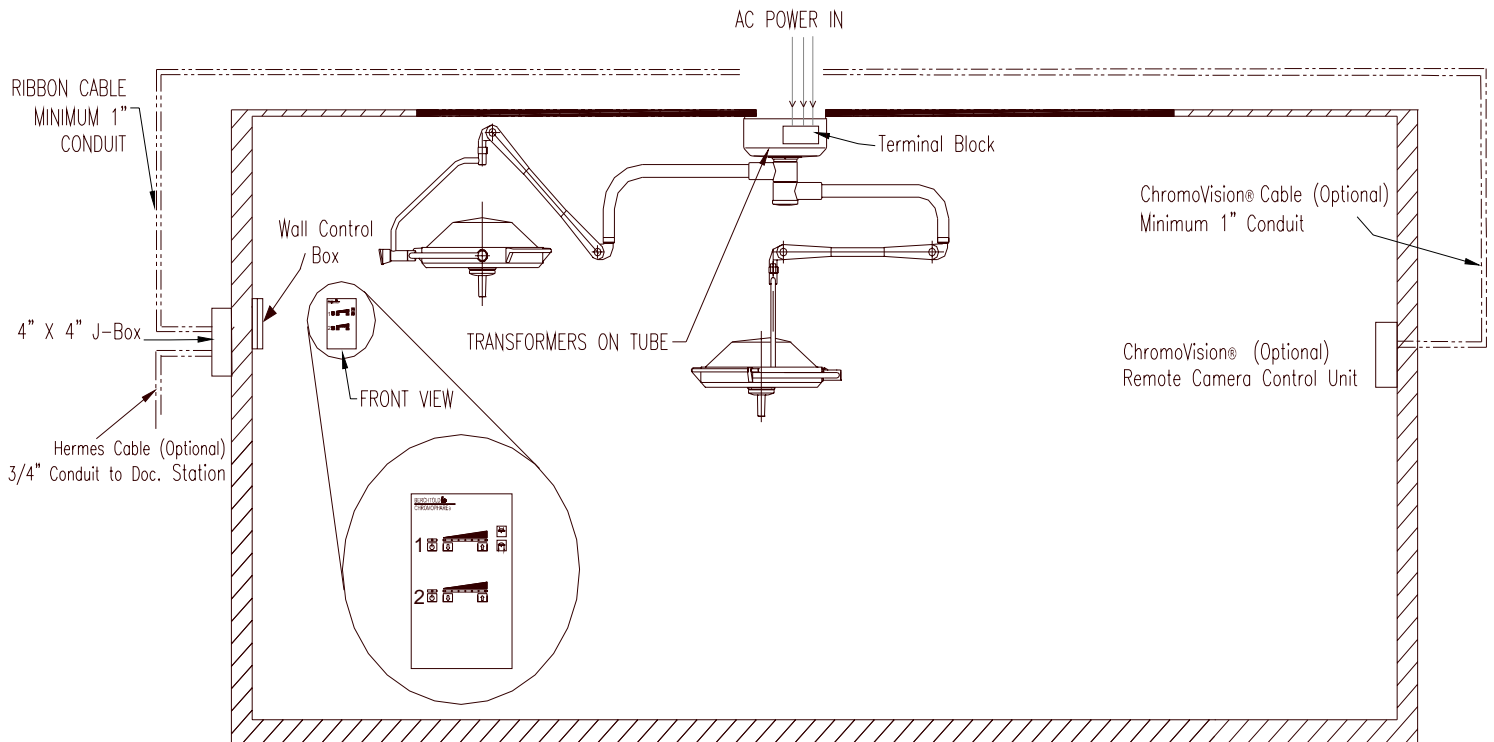
Electrical Requirements

Hospital/Contractor has responsibility for completing all wiring and conduit runs detailed below BEFORE the product can be installed.

Check with Site Project Manager or BERCHTOLD Customer Service to determine whether Standard Mounting or Low Profile Mounting style is to be used.

Standard Mounting – Layout Diagram

(See page 9 for details and description)





Standard Mounting – Details (see page 8 for Layout Diagram)

1. AC Wiring

- Wiring should be 3 wire, 14AWG min., 600V.
- Wiring for lights should be flexible conduit exiting ceiling at the mounting ring and falling 18", min., below ceiling.
- CHROMOPHARE® lights require a 120VAC, 50/60hz supply. BERCHTOLD recommends a separate 120 VAC supply for each mounting ring.
- Each light head draws 2 Amps.

2. Conduit and boxes

- A standard 4X4 junction box should be installed in the wall for mounting of the light Wall Control. Front of box should be flush with the wall. BERCHTOLD suggests that this box be located approximately 53" off the floor.
- For each mounting ring a minimum 1" conduit, with finish grommets at each end, should be installed from the Wall Control junction box and terminated as close to the mounting ring as possible. **Note:** Conduit openings need to be easily accessible at both ends.

3. Optional Equipment

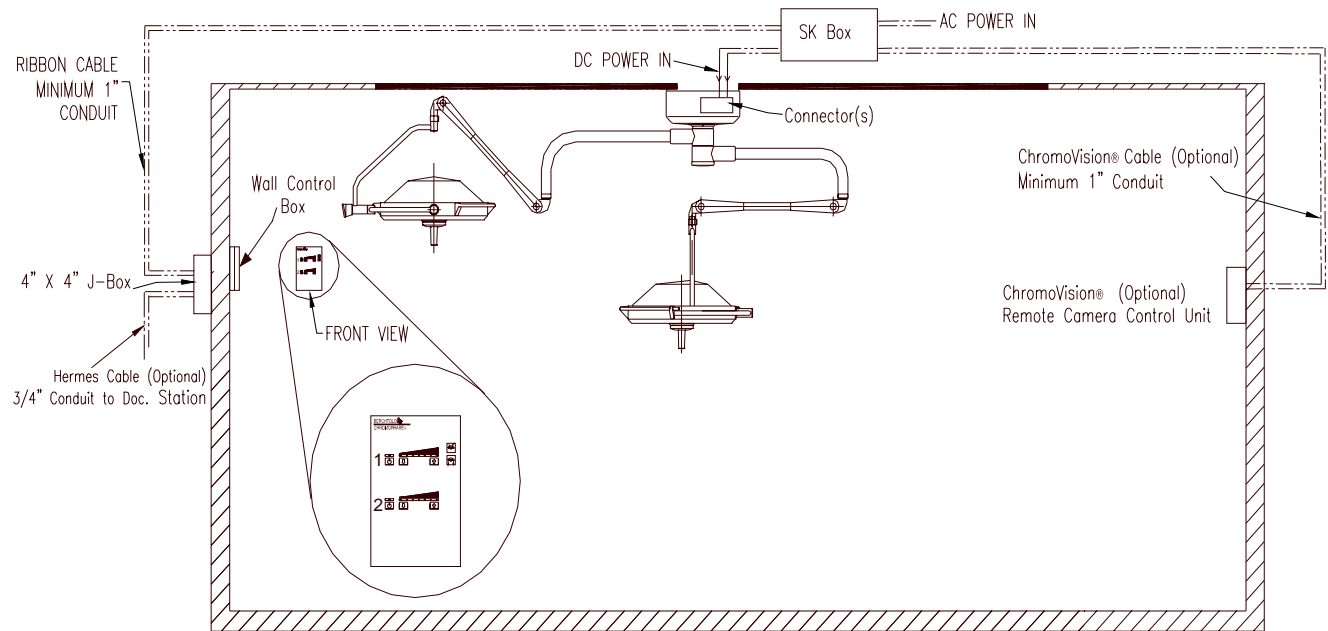
(Contractors – please check with customer to see if any options are to be installed.)

- ChromoVision® camera system - Minimum 1" conduit, with finish grommets at each end, should be installed from the mounting ring to either a junction box used for mounting the camera control or the documentation console, per customer specification.
- Hermes voice activation system – Minimum 3/4" conduit, with finish grommets at each end, installed from the Wall Control junction box to the documentation station.



Low Profile Mounting – Layout Diagram

(See page 11 for details and description)





Low Profile Mounting – Details (see page 10 for Layout Diagram)

1. SK Box Mounting

- SK box must be mounted within 10' of mounting ring and be easily accessible. An access panel close to the box mounting location is recommended.
- Single Light SK box weighs approximately 30 lbs., double Light SK box weighs approximately 50 lbs.

2. AC Wiring (to input of SK box)

- AC supply should be 120 VAC, 50/60 hz. Wiring to be 3 wire, 14AWG min., 600V rated wire and run per local code to the SK box and terminated to the fused terminal block inside the SK box.
- Each light head draws 2 Amps.

3. DC Wiring (from SK Box to Mounting Ring)

- 12 AWG, 600 volt, 1 pair per light head and 1 ground wire per mounting ring. Wire is terminated to the non-fused terminal block inside the SK box.
- Wiring should run from output of SK box and fall 18", min., from ceiling at the mounting ring.

4. Conduit and boxes

- A standard 4X4 junction box should be installed in the wall for mounting of the light Wall Control. Front of box should be flush with the wall. BERCHTOLD suggests that this box be located approximately 53" off the floor.
- Minimum 1" conduit, with finish grommets at each end, should be installed from the Wall Control junction box and terminated at the SK box
- AC wiring – As required by local code.
- DC wiring – As required by local code. **Note:** Conduit openings need to be easily accessible at both ends.

5. Optional Equipment

(Contractors – please check with customer to see if any options are to be installed.)

- ChromoVision[®] camera system - Minimum 1" conduit, with finish grommets at each end, should be installed from the SK box to either a junction box used for mounting the camera control or the documentation console, per customer specification. **Note:** Conduit openings need to be easily accessible at both ends.
- Hermes voice activation system – Minimum 3/4" conduit, with finish grommets at each end, installed from the Wall Control junction box to the documentation station.



Flat Panel Products (with and without lights)

When included as part of a Light assembly:

1. AC wiring (In addition to Light AC wiring)
 - Should be 3 wire, 14AWG min., 600V. Conduit as required by local code.
 - Wiring should exit ceiling at the mounting ring and fall 18", min., below ceiling.
2. Low voltage video cable conduit
 - If conduit for low voltage cable is required by code then BERCHTOLD suggests 2" conduit to allow for the various types and quantities of video cabling that can be run. Conduit should run from the mounting ring to a destination determined by the customer. **Note:** Conduit openings need to be easily accessible at both ends.

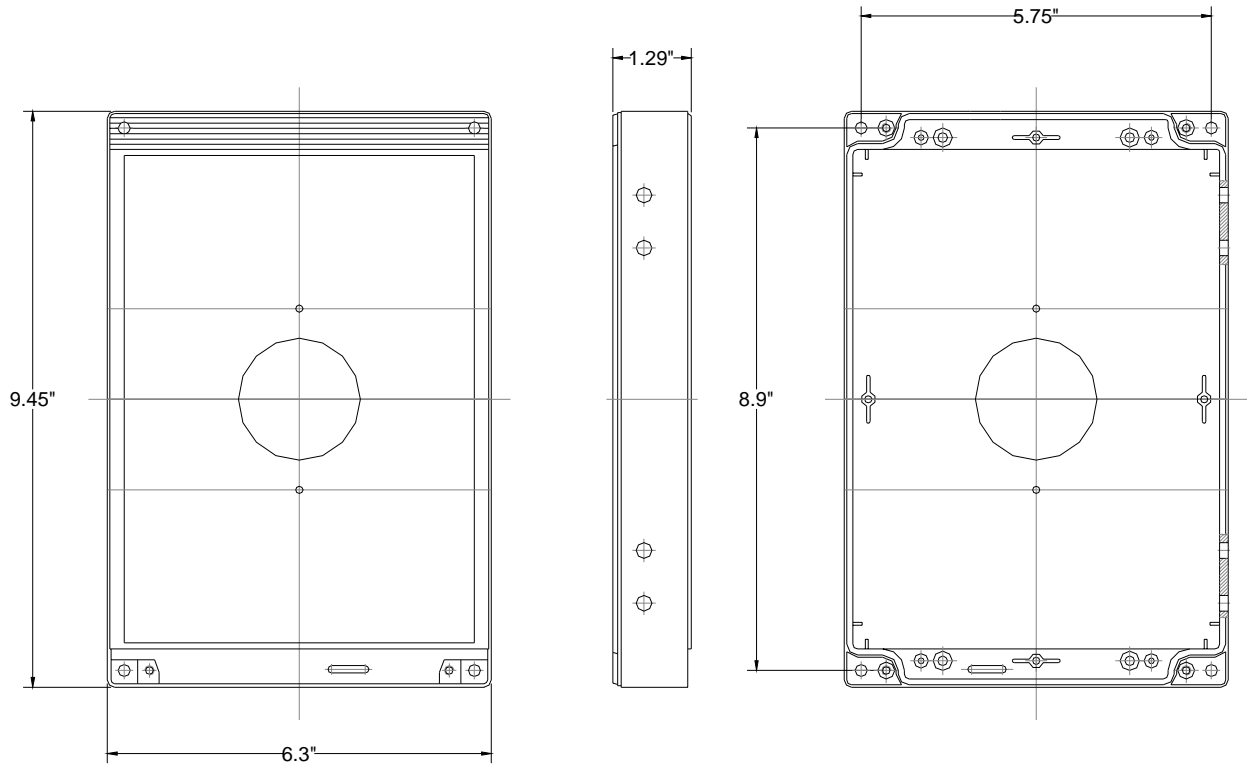
Stand Alone Flat Panel Products:

1. AC wiring
 - Should be 3 wire, 14AWG min., 600V. Conduit as required by local code.
 - Wiring should exit ceiling at the mounting ring and fall 18", min., below ceiling.
2. Low voltage video cable conduit
 - If conduit for low voltage cable is required by code then BERCHTOLD suggests 2" conduit to allow for the various types and quantities of video cabling that can be run. Conduit should run from the mounting ring to a destination determined by the customer. **Note:** Conduit openings need to be easily accessible at both ends.

Wall Control Box Dimensions

Back Panel

(BERCHTOLD Dwg. 10-007-2030)

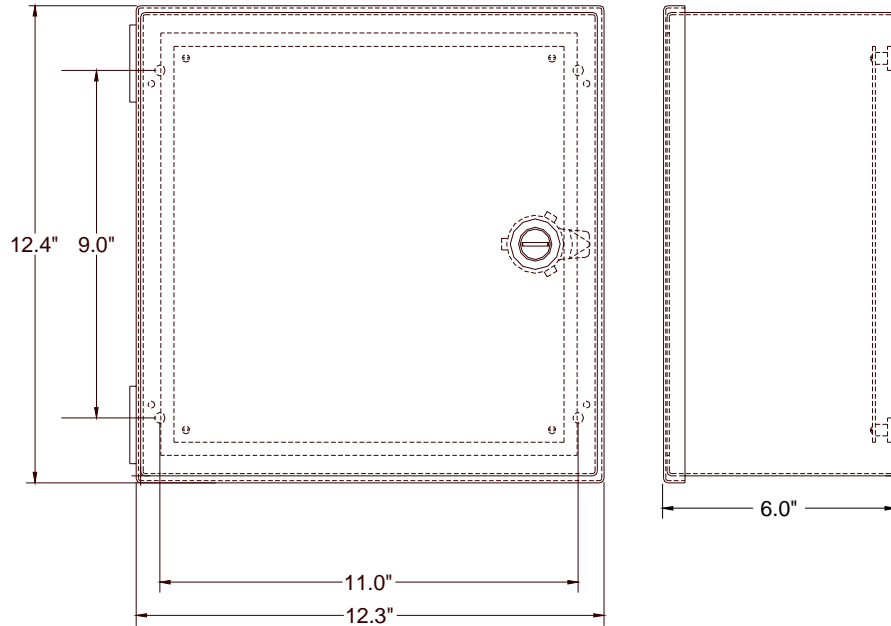




SK Box Dimensions

SK Box for Single Light

Note: Triple light uses one double SK box and one single SK box.
BERCHTOLD dwg. 10-007-1030, Hoffman Engineering No. A-12N126



SK Box for Double Light

Note: Triple light uses one double SK box and one single SK box.
BERCHTOLD dwg. 10-007-0039, Hoffman Engineering No. A-14N126

